WHAT IS CLAIMED IS:

1. A transmission device of a four-wheel drive vehicle, comprising:

an input shaft connected to an engine for transmitting a driving force;

a hollow counter shaft extended in parallel to said input shaft;

shift gear trains provided between said input shaft and said hollow counter shaft;

a first output shaft disposed in a hollow portion of said counter shaft for transmitting the driving force to a final reduction gear of one of front and rear wheels;

a first drive gear disposed at an end portion of said counter shaft;

a first driven gear engaging with said first drive gear and rotating about a rotating axis of said input shaft;

a second drive gear rotated integrally with the first driven gear about the rotating axis of said input shaft;

a second driven gear disposed at a base end side of the first output shaft and engaging with said second drive gear; and

a second output shaft coupled with said second drive gear through a variable mechanism to transmit the driving

force to a final reduction gear of the other one of the front and rear wheels.

2. The transmission device according to claim 1, wherein said first output shaft transmits the driving force to the final reduction gear of the front wheel, and said second output shaft transmits the driving force to the final reduction gear of the rear wheel.

3. The transmission device according claim 1, further comprising:

a partition wall for shutting off infiltration of an oil between a first space at a first side having the input shaft and a second space at a second side having the first drive gear.

4. The transmission device according to claim 1, wherein the variable mechanism is a viscous-coupling.

5. The transmission device according to claim 1, wherein the variable mechanism is a hydraulic multiple disk clutch.

6. The transmission device according to claim 5, further comprising:

an engine-driven oil pump for generating a hydraulic pressure to operate the hydraulic multiple disk clutch.

7. The transmission device according to claim 3, wherein the variable mechanism comprises:

a hydraulic multiple disk clutch; and

an engine-driven oil pump disposed at the partition wall for generating hydraulic pressure to operate the hydraulic multiple disk clutch.

8. A transmission device of a four-wheel drive vehicle, comprising:

an input shaft connected to an engine for transmitting a driving force;

a hollow counter shaft extended in parallel to said input shaft;

shift gear trains provided between said input shaft and said hollow counter shaft;

a first output shaft disposed to be inserted in a hollow portion of the counter shaft, for transmitting the driving force to a final reduction gear of one of front and rear wheels;

a first drive gear disposed at an end portion of said counter shaft;

a first driven gear engaging with said the first

drive gear and rotating about a rotating axis of said input shaft;

a second drive gear rotated about the rotating axis of said input shaft and coupled with said first driven gear through a variable mechanism;

a second driven gear disposed at a base end side of the first output shaft and engaging with said second drive gear; and

a second output shaft rotated about the rotating axis of said input shaft and coupled with said first driven gear to transmit the driving force to a final reduction gear of the other one of the front and rear wheels.

9. The transmission device according to claim 8, wherein said first output shaft transmits the driving force to the final reduction gear of the front wheel, and said second output shaft transmits the driving force to the final reduction gear of the rear wheel.

10. The transmission device according claim 8, further comprising:

a partition wall for shutting off infiltration of an oil between a first space at a first side having the input shaft and a second space at a second side having the first

drive gear.

11. The transmission device according to claim 8, wherein the variable mechanism is a viscous-coupling.

12. The transmission device according to claim 8, wherein the variable mechanism is a hydraulic multiple disk clutch.

13. The transmission device according to claim 12, further comprising:

an engine-driven oil pump for generating a hydraulic pressure to operate the hydraulic multiple disk clutch.

14. The transmission device according to claim 10, wherein the variable mechanism comprises:

a hydraulic multiple disk clutch; and

an engine-driven oil pump disposed at the partition wall for generating hydraulic pressure to operate the hydraulic multiple disk clutch.